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(71) Applicant: MJT HOLDINGS, INC.  
Suite 500, 800 West 6th Street  
Los Angeles, California 90017(US)

(72) Inventor: Lupien, William A.  
4089 Chevy Chase Drive La Canada  
Flintridge, California 91011(US)  
Inventor: McCormack, John P.  
250 Essex Street  
West Boxford, Massachusetts 01885(US)  
Inventor: Schulman, H. Evan C.  
3 Exeter Street  
Boston, Massachusetts 02116(US)

(74) Representative: Haffner, Thomas M., Dr. et al  
Patentanwaltskanzlei Dipl.-Ing. Adolf  
Kretschmer Dr. Thomas M. Haffner  
Schottengasse 3a  
A-1014 Wien(AT)

(54) Automated system for providing liquidity to securities markets.

(57) An automated system for managing one or more large investor portfolios containing both cash and numerous, diversified securities in a real time environment provides added liquidity to the securities markets while maintaining predetermined portfolio objectives for each portfolio. The disclosed system uses data processing equipment to place buy and sell orders on securities markets and with automated brokers to execute trades directly between users of the system and external markets. Holders of such large, diversified portfolios have usually been long-term investors. The system allows active market participation by such investors whereby they provide added liquidity and depth to the securities markets while overcoming problems caused by trader identification and the inability to enter, change or execute

orders in a real time environment. The system monitors and analyzes a variety of factors which effect trading decisions in a vast number of securities. Such factors include other security trades, price and size quotations and financial ratios for particular securities. This information is further analyzed in relationship to each investor portfolio using the system to determine what transactions might benefit the portfolio by seeking to provide an incremental return while accommodating the basic portfolio objectives. These objectives may be changed at the election of the investor at any time. Orders representing such transactions are entered by the system and executed in real time either internally between system users or externally with computerized brokers and/or stock exchanges and markets.

EP 0 401 203 A2

## AUTOMATED SYSTEM FOR PROVIDING LIQUIDITY TO SECURITIES MARKETS

### Technical Field

The subject invention generally relates to automated systems for trading securities in financial markets and, more particularly, to apparatus and a method for broadly increasing liquidity and depth in such markets by trading portions of normally dormant portfolios including those with numerous and diverse securities. The invention seeks to accomplish this without substantially increasing the risk of loss to holders of those portfolios by maintaining an approximation of the desired investment mix in those portfolios while reacting to market pressures so as to generate incremental returns to portfolio holders.

### Background of the Invention

For many years the institutional holdings of securities have been increasing. Institutions now hold in excess of forty percent of the market value of American equity securities. Investment managers of large portfolios generally believe that it is prudent either to invest assets in core or index portfolios which remain relatively stable or, if actively investing, to do so in a small enough number of securities that they can properly monitor the progress of the companies whose securities they own. If they pursue the second alternative, they may, in many instances, take positions exceeding five percent or more of a corporation's capitalization. Since there are few corporations that have a total turnover of their capitalization greater than two hundred and fifty percent on an annual basis, or an average of one percent per trading day, investment managers find themselves holding positions representing five or more days of trading volume. These are large and unwieldy positions relative to the capital available to those responsible for making markets in these securities. Hence, any order to trade such large positions may either remain unexecuted due to the absence of buyers or sellers large enough to be the contra party or, if execution is forced, may cause large, temporary swings in market prices through the effect of supply and demand forces. Large swings in prices reflect unrealistic market values to the general public and may cause inappropriate or even harmful reactions thereto. Strains are placed on the liquidity and depth of securities markets and instability may result. The absence of just this type of liquidity and depth was identified in the Report of the Presiden-

tial Task Force on Market Mechanisms (January 1988), also known as the "Brady Report", as a fundamental cause of the financial market freefall which occurred on October 19, 1987. No automated trader system has specifically addressed these problems in institutionally dominated markets, and some automated systems, such as portfolio insurance, may even have contributed to the problems. A distinction is drawn here between automated traders which are decision makers and automated trading systems which are message switching systems that allow traders to execute orders.

Other potential difficulties also accompany major securities position changes by institutional holders. For example, it is in the interests of the large institution to maintain both anonymity and to not disclose information concerning the total size and price limit on an order when engaging in substantial transactions both to retain privacy and to avoid other traders front-running the order, thus adversely affecting prices received or paid. Identification of trader interest can result simply by allowing an order to remain open and unexecuted for periods of time as may occur during periods when individual specialists and traders try to assemble bids or offers for large orders or even with preexisting automated trading systems where orders remain in the system until actively cancelled.

Another problem is the inability to quickly enter, cancel or alter the desired terms of securities orders in a real-time environment whether using a computer-directed trading system or not. This difficulty has further exacerbated liquidity problems in the securities markets and has, consequently, made many users reluctant to use automated trading systems. It has also meant that large institutional investors have not had the opportunity to increase the return on their investments through short term trading. Most of their portfolio remains static and/or idle over substantial periods of time, especially when compared to the equivalent value of securities held by individuals of which a portion is continually coming to the marketplace due to the fact that there are many individual decision makers. Institutions, because of their size, reflect an aggregation of the holdings of many individuals subject to the authority of relatively few decision makers. The flow of any particular security to the marketplace from the "institutional market sector" tends to gyrate widely when compared with the flow of that same security from the "individual market sector", especially since institutions often react to similar kinds of stimuli, such as research, newsletters and other information services, in mak-

market sectors, when a small profit may be achievable in a short period of time by buying or selling a particular security in a user's portfolio considering competitive purchase and sale orders in the open market place. The potential profit achievable is a function of the particular security's price volatility and trading volume. The risk assumed is that, as compared to the core portfolio, the provision of liquidity results in the over- or under-weighting of securities which may generate opportunity losses. In other words, the portfolio would have been invested in the particular stock regardless. To buy additional shares in one security, offset by a comparable sale in another security, subjects the portfolio to the risk that the over-weighted security will underperform the unaltered core portfolio, while the underweighted security overperforms it. In any two securities this may happen, but if the differences in weightings are spread over many securities, and the net difference is small (i.e., the cash is controlled), the risk is minimized. Overweighted securities which underperform should generally balance overweighted securities which overperform. If that were to happen exactly, the institution achieves the performance of its core portfolio together with the proceeds extracted from other market participants who traded with the institution at the price offered by the institution. Risk borne by the portfolio using this system arises from the variability in performance of the traded portfolio when compared with the untraded portfolio.

As orders are executed, market quotes change or trades occur in the markets, the system which represents the present invention will update market data, portfolio holdings, including cash, and recalculate purchase and sale orders in all relevant securities. A record of all activity is maintained on the system, including all transactions and unexecuted orders. At the end of the trading day, a file of trade advices is transmitted to (or is available for) the broker's clearing agent, as well as the client's custodian banks.

It is a primary objective of this invention to provide previously unavailable liquidity and depth to securities markets.

It is a further objective of this invention to provide an incremental return to holders of broadly diversified portfolios using the system without altering the pattern of returns from the client's original portfolio. This objective is achieved by trading securities which would otherwise remain "idle" in a portfolio in an environment that provides anonymity during trading as well as small changes in overall market exposure through offsetting positions in many individual securities. "Idle" securities are those which are held by an institution in a static core portfolio and which have a low probability at any moment in time of entering the flow of market

transactions.

It is yet another objective of this invention to provide an incremental return to users of this system while simultaneously allowing them to select and alter basic investment characteristics of their portfolios. The system selects and executes trades based on an analysis of transactions and the imposition of controls which leave the basic characteristics of the underlying portfolio of securities selected by the investment manager intact.

It is still another objective of this invention to provide a system which permits investment managers to selectively communicate directly with and/or execute trades with other portfolio holders using the system and/or brokers and/or exchanges.

It is yet a further objective of this invention to provide a system for entering, executing and/or cancelling securities purchase and sale orders instantaneously and anonymously in a real time environment.

It is another objective of this invention to capture, as profit, a portion of the impact upon markets of orders entered thereon by other institutional investors. This impact may be large as a result of gaps in competition and inadequate liquidity. The system takes advantage of securities trading at a short-term premium or discount resulting from supply and demand imbalances by trading them and then making offsetting transactions elsewhere in the portfolio. Despite the trading activity, the fundamental investment characteristics of the underlying portfolio remain basically unchanged.

A further objective of this invention is to provide additional depth and liquidity to markets due to the large number of securities held in portfolios which use the system of the invention. The system will operate to rigorously apply portfolio theory to the securities trading process and to evaluate the appropriate prices for purchase or sale orders for a security given its underlying trading characteristics and its recent behavior as well as that of similar securities.

#### Brief Description of the Drawings

The foregoing and other objects, aspects and advantages of the invention will be better understood from the following detailed description of the invention with reference to the drawings, in which:

Fig. 1 is a block diagram of the hardware for carrying out the data processing and operational methodology of the securities liquidity provision system of the present invention;

Fig. 2 is a reproduction of data shown in a display screen relating to all orders pending on a particular day for a particular client using the sys-

cility. Similarly, but only at the end of each trading day, all trades involving each individual security are aggregated, average-priced where appropriate and electronically reported through settlement data terminal 27 for trade settlement to the clearing agent.

Clients and brokers using the system have the ability to view information pertaining to all pending orders and all of their own executed and cancelled orders ranked by various criteria as demonstrated in the various screen or window formats shown in Figures 2 through 6. A sorting function allows the user to concentrate on the most important orders according to the selected criteria. This display function allows users to manage their orders and to review how their decision and trade processes are working, how their orders are interacting with the market, and what other market participants are doing.

General market information, supplied by a securities information vendor at the client's site, is contained in the top box of all screens illustrated in Figures 2 through 6. Data, time and the day's market volume is displayed on the left hand side, the level and change in one of the broad market indices is placed on the right-hand side along with the tick figure. Tick is the net number of trades that occurred last on the price rise or decline. The middle portion of the top box on all screens displays the client's name, the type of screen being used and the type and kind of sort for the displayed data. All screen segments may be differentiated by color.

The bottom portion of all screens contains prompts that enable the user to change the way the data is displayed or ranked, to move to other screens, to alter orders or to respond to the orders of other system or market participants. To accept instructions, the system makes use of function keys available on most keyboards and on the position of the cursor to highlight the desired function or sorting attribute.

Figure 2 illustrates a screen displaying all pending orders for an individual user. Clients can view their orders ranked by size (as displayed), nearness to execution, price move for the day, symbol, etc. The screen is divided so that Sales appear on one half of the screen, Purchases on the other. For each order, the security's symbol, best bid, market or exchange displaying that best bid (an "m" means the best bid resides on the system represented by the current invention), similar information for the ask price, the multiple of 100 shares represented by the best bid and ask, the size of this client's order in multiples of 100 shares and the current limit price associated with this order.

The one order listed on the Purchase side of the screen in Figure 2 indicates that this client has

an order to buy 5,000 shares of the security represented by the symbol XYZ at a limit price of \$16.125 (all prices are displayed as whole dollars plus the numerator of the appropriate fraction). The best bid for the stock is \$16.125 for 5,000 shares. That bid resides on the system represented by this invention, and is obviously this order. The best offer happens to be on the Midwest Stock Exchange, it is for 10,000 shares at a price of \$16.375. The client had a substitute order for the security BBT which currently resides on the Cancelled order list. A substitute order is an order for another security, the purchase or sale of which would substantially equally satisfy the objectives of the portfolio. At the bottom of this section, the system totals the number of pending live Purchase orders, the number of shares and the dollar value represented by these orders and what percentage of these orders could be done and at what cost, as measured from the client's limit price, should the client not insist on the displayed limit price, but accept the best terms offered by the other side. In this case, if the client were to go to the Midwest Exchange and pay \$16.375, he could, subject to prior sale, purchase his 5,000 shares from the 10,000 offered. The cost represents a 1.3% premium compared to the limit bid of \$16.125 which the client is currently advertising.

Figure 3 illustrates the same information as Figure 2 but for all trades cancelled on a particular day by the particular client or his trading process.

Figure 4 illustrates essentially similar data but, in this case, relates to orders executed on a specified day. The Buy side of the screen shows that this client has purchased 10,000 shares of the security ZYX at a price of \$25.25. The current bid is \$25.375 for 5,000 shares, the ask price is \$25.625 for 100 shares and the cost, as measured from the execution price of \$25.25 to the current ask (what a purchaser would have to pay currently) is a negative cost (i.e., a profit) of 1.3%. Again there is summary information at the bottom of this segment of the screen.

Figure 5 illustrates similar data for all orders on the system. In this case, the securities are ranked by move from the previous night's closing prices. A security symbol, bid, market, ask, market, size of the bid and ask, the size of the order residing on the system and the change for the day in percent terms are all displayed. Between the size of the order on the system and the percent change for the day is the measurement in eighths from the best ask for sales, bid for purchases, and the limit price for the order on the system represented by this invention. For instance, the system has an order to purchase 15,000 shares of FEA which is up 4% from the previous night's close. The best bid is \$21 on the New York Stock Exchange, ac-

- (3) quoted bids and offers;
- (4) the cash position of the portfolio;
- (5) the exposure of the portfolio to various industries and sectors; and

(6) purchase and/or sale orders displayed by others in automated brokerage or exchanges to which the present invention is linked.

The resultant analysis will be used in step 40 to generate buy and sell orders and/or sets of orders at specific prices for transmission by the system both internally to other clients and externally to outside broker dealers, exchanges and/or others for each security in the client's portfolio as to which the present invention deems it appropriate. The price of purchases and sales is dependent on interrelationships between inventory in the portfolio, the "normal" price for that security and its actual market price at the time the decision is made. The size of the purchase orders generated by the invention is greater the further the current actual price is below that security's "normal" price. The size of the purchase orders, if any, is smaller the further the actual price is above the security's "normal" price. Also, the buying limit, or size of order, per security becomes more (less) stringent as other securities become more (less) attractive to hold or as that security's sector becomes over-(under-) invested or as cash reserves fall (rise) from normal. The size of the sale order generated by the present invention is greater the further the current actual price is above that security's "normal" price. The size of the sale order, if any, will be smaller the further the actual price is below the security's "normal" price. Thus, the selling limit or size of order per security becomes more (less) stringent as other securities become less (more) attractive to hold or as that security's sector becomes under (over) invested or as cash reserves rise (fall) from normal. The size of the buy or sell order can be limited for low price stocks and will be smaller for each difference between the current and "normal" prices the greater a security's variability. Further, the size of the invention's buy or sell order will be larger if such a transaction would help to offset a current position imbalance in the portfolio's stock, industry, sector or cash exposure. To the extent that an acceptance of the invention's buy or sell order will aggravate a current imbalance, the size of that order will be restricted. If a decision is made in step 40 to enter no order, control of the program is transferred back to block 32 for analysis to proceed on the next security in the portfolio. It should be understood that the analysis of individual securities in individual portfolios is an ongoing, continuous process wherein the controller CPU 10 causes alterations of bids and offers in direct relationship to changes in the portfolio criteria and the receipt of continuously updated

current market data from reading quote and trade tapes made available through trade data terminal 26. While this process is described as a flow, the system is "event driven" in that an event such as a transaction for clients or an "out of pattern" action by other market participants elsewhere will interrupt the flow and trigger a response on the part of this invention's trading and balancing algorithms. This response will be based on the rules discussed above.

A particular advantage of this invention is that clients running their own balancing algorithms may in step 42 alter any order on the system by changing, cancelling or adding to it. What differentiates this capability, as implemented by this invention, from others that allow the keyboard or computerized entry of orders into computerized securities trading systems in that the system of the invention allows computers to alter and receive confirmation of order changes on national markets with a delay of only seconds. For orders that have been placed outside of the system due to direct connection with automated brokers and/or exchanges, such as INSTINET and the CINCINNATI Stock Exchange, through external data terminal 22, the speed of the cancellation or altering process depends on the response time of these other computers. By comparison, orders placed on other electronic order routing systems, such as the Designated Order Turnaround (DOT) system of the New York Stock Exchange, for example, although entered by computer, still generally depend for execution on human specialists or traders who must ultimately react to the order. Hence, undesirable and unexpected delays are inherent. This invention substantially removes such problems. Manual alteration of orders, although not usual due to the speed of operation of the system and the reliance on trading algorithms, is also available to clients at step 42.

That portion of the invention that receives, handles and executes orders for the purchase and sale of securities and reports transactions to the central reporting facility, if appropriate, and to the clearing agent is operated by a registered broker-dealer. That portion of the invention which analyzes price and determines orders is operated by a registered investment adviser. Orders are executed by the system on a price/time priority basis within the system in step 44, although orders could also be executed on a price/size/time priority basis. All orders generated are forwarded to controller CPU 10 which presents them together with those from other clients for display to each client or client process in a manner described below. If a purchase order matches a sale order (in whole or in part) created for another client portfolio the controller will match the two and a trade will occur which will be reported to the markets as well as to each

occurs when a buy order and a sell order agree on security name, price, size and terms of the trade. If a match is detected, both the buy and sell sides of the order are at block 84. In the case of external auto-traders, acceptance is tentative and becomes final only when confirmation from the external auto-trader is received by the system. Since external auto-traders must themselves confirm a match there will be a limited period of time before acceptance or rejection, and, therefore, the tentative acceptance procedure is necessary. By contrast, internal auto-traders accept matches immediately in real time without tentative acceptance. If either side of the trade rejects the match, the order is reopened at block 86 while the order of the rejecting side is newly time-stamped and moved to the rear of its price-priority group. The order of the accepting side is not requeued.

External auto-traders can be rated by order throughput, i.e. by volume of orders executed. An external auto-trader producing three times the execution volume could be given three times the order flow from the order handling process when quotes are identical. Order placement will be biased by the relative sizes of the best bid and/or offer of different external auto-traders. The invention will move orders to the auto-trader which has matching side size relative to other external auto-traders and order size relative to other external auto-traders. The system could recognize volume of orders executed or quote size over varying time horizons which could allow it to indicate the presence of the other side in a remote system. These additional factors increase throughput and decrease additional costs.

Both internal and external auto-traders may cancel an order or replace it with a new order on different terms. However, cancellation is problematic when an order has been placed with an external auto-trader. The cancellation in this case is accepted subject to prior execution. If the external auto-trader has a defined cancellation mechanism, the cancellation is effected when the external acknowledgement is received. If there is no definite mechanism or too much time elapses, the cancellation is effected by the system's internal rules. An execution report which is subsequently received from the remote system and which cannot be matched will be refused and an alarm transmitted to supervisory CPU 18 for display on CRT 20 and/or hard copy printer 21 for human resolution.

Orders residing on both the present invention and external computerized brokers, exchanges and/or markets are subject to cancellation due to prior execution in such other systems. If the client desires, an order may be transmitted to such other systems to match against order residing thereon. However, the auto-trader methodology of the inven-

tion also provides for other types of special auto-traders which fulfill specific functions. Such special auto-traders resemble "floor brokers" who place orders on remote systems subject to various terms. If it is in the interest of clients using this invention, their auto-traders will ask these special auto-traders to place sell orders at or near the offer, buy orders at or near the bid on a remote system. These orders would then be displayed on that system to the extent that they matched the interests of other system clients. The order manager auto-trader would assign any trades done on the remote system to system clients using a price/time priority basis. Another type of special auto-trader can take any order and pass it through to a remote system. These orders would be represented in addition to those of the right and wrong side auto-traders. This type of special auto-trader could be used by a human trader communicating by terminal to gain unfiltered access to a market.

Trade reports from remote systems would be matched to outstanding tentative executions just as the original orders were matched. Partial order matches or partial executions cause the contra side order to split into an order of the correct size and an order holding the remaining size. Rejection of a match triggers appropriate fusion of previously split orders.

As noted above, an internal auto-trader may issue an order as good or better than an external quote which is in tentative match. The internal quote is matched as soon as the external match is rejected. The match system can recognize that a better match is possible and attempt to cancel the external order before it is accepted. In addition, the match process is able to "chain" matches so that all of the matches are done or none are done. This would, for instance, allow an order for a security denominated in currency "a" to be executed in a market trading in currency "b" if the "b" to "a" exchange rate were acceptable. Further, the system could be modified to include an intelligent order manager which executes profitable trades that the base system would not itself execute. For instance, an all-or-nothing order for 16,000 shares of IBM would fail if the system had only 15,000 shares available. The intelligent order manager could, upon the client's standing or contemporaneous instruction, execute the full order and find the other 1000 shares later if the overall trade looked profitable or if customer satisfaction required execution.

Reference is now made to Figure 9 which illustrates in schematic flowchart form the trade settlement procedures used by the present invention to handle order matches at the end of each trading day. This flow chart examines in greater detail the activity undertaken by the system which

execution in a substantially real time environment.

4. The system of claim 3, wherein buy and sell orders for securities are executed on a price/time priority basis among internal investors.

5. The system of claim 4, wherein buy and sell orders for securities are submitted to external automated securities brokers and exchanges for execution on a price/probability basis.

6. The system of claim 1, wherein the purchase and sale transactions completed by said controller means include initiation, execution, alteration and cancellation of one or more such transactions.

7. The system of claim 6, wherein said investor computer means sorts and displays orders of each investor according to criteria established by that investor.

8. The system of claim 7, wherein said investor computer means continuously analyzes and displays on command the trading decisions of each investor in relationship to the portfolio objectives of that investor and the interaction of those decisions with the market and other participants in the market.

9. The system of claim 1, wherein said investor computer means instructs said controller means which securities to buy and to sell.

10. The system of claim 1, further comprising substitute order means for determining when a transaction other than that specified by said controller means will satisfy the portfolio objectives of a particular investor.

11. The system of claim 1, further comprising means for substantially continuously determining the normal price of each security concerning which data is stored in said first storage means and for using that determination together with an analysis of the inventory of each institutional investor portfolio and the actual current market price of each such security to determine whether to purchase or sell that security for each separate investor portfolio.

12. The system of claim 1, wherein the probability of generation of a transaction order for any particular investor decreases in direct relationship with the probability that execution of that transaction will cause an imbalance in that investor's specified mix of investments in securities and cash reserves.

13. The system of claim 1, further comprising means for consolidating multiple transactions in the same security within a single day for any particular investor and for assigning a single average price to all purchase transactions of that particular investor for each such security and for assigning a single average price to all sale transactions of that particular investor for each such security.

14. The system of claim 1, wherein the portfolio objectives of any particular investor portfolio

may be altered at will by that particular investor.

15. The system of claim 1, wherein only large, well-diversified institutional portfolios are managed.

16. A method for interactively managing a plurality of internally linked investor portfolios, each having an inventory including numerous and diverse securities traded in securities markets and each having separate portfolio objectives represented by a specified desired mix of investments in securities and cash reserves comprising the steps of:

updating data files on a daily basis to reflect corporate actions relating to all managed securities;

updating data files on an ongoing basis with current market information concerning the variance of the price fluctuations of each managed security;

updating data files on an ongoing basis with current market information concerning the normal price of each managed security;

analyzing and altering the desired mix of investments in securities and cash reserves for each investor based on changes in portfolio objectives; analyzing said variance data, said normal price data and said portfolio objectives;

generating one or more sets of buy and/or sell orders for securities at specific prices;

offering all buy and sell orders first to other internally linked investors for real time matching and execution; and

offering any buy and sell orders remaining unexecuted after having been offered to said other internally linked institutional investors to external automated traders for substantially real time matching and execution.

17. The method of claim 16, further comprising the step, after said step of generating, of determining what other transaction(s), might be substituted for any particular buy and/or sell order which would similarly satisfy the portfolio objectives without causing a significant change in the specified desired mix of investments in securities and cash reserves of the portfolio.

FIG. 2

Date 10/20/89		C L I E N T		N A M E		DJI 3,153.75	
Time 14:56:01 EST		EQUITY TRADER				Change +15.34	
Vol 184 (216)		PENDING TRADES				Tick +153	
Ranked by Value - Ascending							
S A L E S				P U R C H A S E S			
SYM	Bld	Ex	Ask	Ex	Size	Order	LIMIT
ABC	16.1	*	16.3	*	50x100	50	16.4
DEF	21.	N	21.1	*	600x150	100	22.
G	25.	M	25.2	N	120x 15	100	25.3
HI	20.1	M	20.3	*	20x200	200	20.3
JKL	22.	*	22.1	*	190x300	200	22.4
substitute H							
STU	30.1	P	30.2	*	86x130	300	30.3
VWXZ	10.6	*	10.7	N	685x999	1000	10.7
Scroll up for 2, dn for 12 other orders							
Total: 21 orders,							
55,000 shares, \$2,210,000. 78% @ 5.3%							
Total: 1 orders,							
5,000 shares, \$ 80,000. 100% @ 1.3%							
Sort: Size: nearness to Execution-Right/Wrong side: Mkt move: Symbol: Value:							
F1 SYM(Stock Detail): F3 SYM(Cancel Order): F8 (Executions): F10(Cancel ALL)							
* System Orders F9(List of Cancellations) (C) MJT							



FIG. 4

Date 10/20/89		C L I E N T		N A M E		DJI 2,153.75	
Time 14:56:01 EST		EQUITY TRADER				Change +15.34	
Vol 184 (216)		Executions				Tick +153	
Ranked by Value - Ascending							
Trade		S A L E S		Trade		B U Y S	
SYM	(000)	Price	Bid Ask	Size	(000)	Cost	Size
				(000)			(000)
CDA	5.0	16.	16.1	16.3	5x10	3.2	50x1
FED	10.0	21.	21.	21.1	60x15	0.0	50x1
H	10.1	25.	25.	25.2	12x1	0.0	50x1
IG	20.0	20.1	20.1	20.3	2x20	0.0	50x1
LKJ	20.4	22.1	22.	22.1	19x30	-0.5	50x1
ONM	50.7	10	10.1	10.2	5x3	1.0	50x1
RQP	20.0	30.3	30.2	30.4	4x6	-0.3	50x1
UTS	30.0	30.	30.1	30.2	8x13	0.3	50x1
ZXWV	100.0	10.7	10.6	10.7	68x99	-0.4	50x1
Total: 1 trades 10,000 shares, \$252,500: Cost -1.3%							
Total: 23 trades, 155,000 shares, \$4,910,000: Cost -0.35%							
Scroll up for 2, dn for 12 more trades							
Cost - to Last: from Prev Close: to Current Quote Right/Wrong side:							
Sort: Shares: Value: Cost-Prev cls, Last, Bid, Ask: Symbol: Ind: Mkt mve							
F1 SYM(Stock Detail): F3 SYM(Cancel Order): F7 (Pending): F10 (Cancel ALL): (C) MJT							

FIG. 6

Date 10/20/89	C L I E N T		N A M E		DJI	2,153.75
Time 14:56:01 EST	EQUITY TRADER				Chg	+15.34
Vol 184 (216)	Order Form - XYZ		Widget Corp of America		Tick	+153
Hi 16.3 Lo 16.1	Open 16.1	System Ask		ORDER - ACTIVE	Beta	1.2
Last 16.3 +.1 Vol 300		would execute		(substitute BBT)		
		100% @ 1.3% cost		Price	Size	Val
		P/Earn Yld/Div		Buy	50	80
		15.3 3.1		Sell	0	L
		1.11 0.50		Accnts		
		161x163		AG0054	16.1	5
		2x24		J11935	16.1	15
		2x2		MX7564	16.1	15
				ON6430	16.1	15
						L
Last 6 10 \$16.3 11:34 50 \$16.3 10:54			Alerts:			
Market 1 \$16.2 10:44 1 \$16.2 10:05						
Trades 10 \$16.2 10:05 25 \$16.1 9:57						
Our Trades:	bght	5,000	\$16.3	10:54	#AG0054	
In XYZ	bght	2,500	\$16.1	9:57	#AG0054	
	bght	5,000	\$16.1	10:19	#MX7564	
F1 + SYM (Stock Detail)			- F3(Cancel Order): F5(Submit Order): F10(Cancel ALL)			
* System Orders -Scroll within boxes-			F7(All Pending): F9(Cnxled List)(C) MJT			